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PRELIMINARY STATEMENT

FOREST INSECT INFESTATIONS

NORTHERN IDAHO AND MONTANA
(FOREST SERVICE - REGION ONE)

By the
Forest Insect Laboratory
Coeur d'Alene, Idaho

Existing forest insect infestations within the different timber types of Region One have resulted in the building of a large survey program which is now under way. This program includes surveys which vary in character to meet the objectives of each situation. In addition to this planned program of detection, reconnaissance and appraisal surveys many reports of insect infestations have been received from all cooperating agencies. These reports have been most helpful as they have provided information that we did not have, and they are helping to complete a region-wide picture of insect conditions. This cooperation on the part of both public and private forest agencies is greatly appreciated and its value cannot be overestimated. It is regretted that as yet our surveys have not progressed sufficiently to provide an accurate description for any of the different insect situations. However, this report will provide information as to what is being done as well as to what has already been accomplished.

Aerial Survey

As a preliminary to the more intensive ground work that was to follow, an aerial survey was made of all forested areas within the region. This survey showed the areas of past bark beetle damage in Douglas-fir, lodgepole pine and white pine. It also recorded all areas of spruce budworm defoliation that were visible from the air. As there is no discoloration of the foliage on beetle-attacked spruce, the survey was of no assistance in connection with this phase of our program. A total of 171 hours of flying time was used on the aerial survey which provided information as to the location of 1951 bark beetle infestations and 1952 budworm outbreaks.

Spruce Budworm (Choristoneura fumiferana)

An aerial survey of all forested areas within the region where budworm infestations were known to be present showed a marked increase in the extent and severity of the 1952 defoliation over that of 1951. Although a few small areas of new infestation were recorded, the greatest value of the data obtained rested in the information gained as to the spread and increased severity of the previously known situations. A final

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tabulation as to the acreage of budworm defoliation visible from the air has not been made, but it is estimated that it will not be less than two million acres. In addition to this acreage there are the areas of light infestation where the 1952 defoliation was not sufficiently heavy to be discernible from the air. This of itself will comprise many acres.

Ground work is now being directed to the delineation of areas of past severe damage where the addition of another year's defoliation to the injury already received by the trees will result in an unwarranted loss of timber. This work will not be completed until some time in October.

In early July control measures were conducted on some 12,000 acres of budworm infestation within the East Fork drainage of the Bitterroot River. This area was the severely damaged portion of an infestation of some 90,000 acres. The results of this small project were considered as being entirely successful. Larval counts before and after spraying indicated a 98 per cent mortality. Aerial observation shows that the treated area is quite easily detected as the trees look much better than they do in the untreated portions of the area.

Fir Looper (Melanolophia imitata)

Early in the season reports were received of large numbers of small moths flying about the tops of forest trees in the southwestern portion of the St. Joe National Forest. Later in the season reports were received of severe defoliation of grand fir and Douglas-fir by a looper or "measuring worm". This insect has been determined as Melanolophia imitata, a species about which very little seems to be known. The current outbreak is the second known instance of the insect appearing in epidemic numbers in this region. In 1945 an outbreak became noticeable within the Benton Creek drainage of the Little North Fork of the Clearwater River. In 1946 the defoliation was quite severe and considerable concern was expressed as to the future of the defoliated trees. However, the following season the outbreak subsided with little resulting damage, except for the top killing of some few grand fir trees.

A survey of the present outbreak indicates some 180,000 acres of defoliated Douglas-fir and true fir that are visible from the air. The defoliation is quite largely confined to the tops of trees, although in the severely defoliated portions of the area the feeding by the caterpillars was extended to all the 1952 growth of foliage. The future of this outbreak is most difficult to predict. Should it follow the same infestation cycle as the previous infestation, little, if any, damage will follow. However, a marked increase in the severity of the defoliation can be expected in 1953 and should the outbreak continue through 1954, heavy losses could occur.

Engelmann Spruce Beetle (Dendroctonus engelmanni)

In 1949 a heavy windstorm caused serious damage to the forests of northern Idaho and northwestern Montana. In this portion of the region the damage varied from the blowdown of practically all trees on small and large areas to single and small groups of windthrown trees scattered throughout the forests of the damaged areas. The danger of these windfalls, which are preferred by bark beetles for breeding places in preference to standing trees, as a factor in building subsequent bark beetle epidemics was fully recognized.

Although the 1952 season was foreseen as the year that the first evidence of a spruce beetle epidemic would appear, if such a condition were to occur, there was no way that its seriousness or its extent could be determined. In late June 1952 an abnormal number of newly attacked spruce trees was recorded on the Kootenai National Forest. This was the forerunner of what has since proven to be a most destructive and potentially dangerous situation. Since that discovery, a program of detection surveys conducted by personnel of the Forest Service, states and private timber owners has shown many areas of serious infestation. On the Kootenai, Flathead, Kaniksu, Cabinet, St. Joe and Clearwater National Forests most all spruce stands are infested. In these areas the spruce beetle has attacked from 4 to 25 per cent of the trees and in some few areas practically all of the trees are now infested. On other forests the situation is not so severe as there are only a few scattered infestations.

Appraisal surveys are being made on the Kootenai, Flathead, Kaniksu, St. Joe and Cabinet Forests. These surveys are being directed into areas where more intensive data are desired for a proper planning of direct control through the logging of infested trees. This phase of the survey program is being made with Forest Service personnel drawn from the forests where the work is being conducted. These crews were trained by Bureau personnel and are under the technical supervision of the Bureau.

Reconnaissance surveys of spruce areas that are not to be included in the program of appraisal surveys are being made by Bureau of Entomology and Plant Quarantine crews. Data from these surveys, with that of the appraisal surveys, will be used to provide an adequate and proper presentation of the region-wide situation.

Much interest is being shown by all agencies, both private and public, in an all-out effort to master this situation. Much progress has already been made in the cutting of infested trees and steps are under way to greatly implement this control program. The full story of the situation will not be available until late in the season.

Mountain Pine Beetle (Dendroctonus monticolae)

A crew of five men has been engaged in the survey of white pine areas where potentially serious infestations of the mountain pine beetle were assumed to be present. This survey has been completed for the Coeur d'Alene National Forest and the data obtained indicate either no change from the 1951 situation or a slight reduction in the severity of the infestation. Here again the full story of the mountain pine beetle situation in both lodgepole and white pine will not be available until late in the season. There are still a number of areas of red tops (1951 attacks) that were recorded by the aerial survey that are to be checked for current-season attacks. A prediction as to what the final picture will be would be useless at this time.

Douglas-fir Beetle (Dendroctonus pseudotsugae)

For the past several years there have been serious losses of Douglas-fir in all portions of the region as a result of Douglas-fir beetle attacks. In 1951 surveys of portions of the Clearwater River drainage indicated that 20 per cent of the residual stand had been killed by the 1950 and 1951 attacks of this beetle. Although perhaps most serious in this area, the damage had and was still occurring in many other forests. In fact, but few of the nature stands of this tree species seemed to be immune from attacks of the beetle. This position was again confirmed by the aerial survey of the current season which showed groups and areas of red-topped trees in most all forest areas.

A survey crew has been working in these areas of Douglas-fir kill throughout the season and will continue until field work is no longer feasible. Although considerable data have been obtained, it is yet too early to predict the future of this situation.

In brief this summarizes the forest insect situation within Region One as it is known at this time. As fast as the rapidly accumulating data can be analyzed for presentation, additional statements will be submitted. One of the more difficult problems to be solved in connection with the program of forest insect surveys has been the manpower situation. There have been but few men available for this work who are qualified for it. The situation has been rather well solved for the present, but more men are needed as a large number of the temporary men now employed will leave the last of September to return to school. There will still be much work to be done during October.

The following is a list of the survey crews now working and their assignments.

Spruce Budworm

Region-wide survey..... 1 crew of 2 men

Engelmann Spruce Beetle

Appraisal surveys

Flathead..... 2 crews of 3 men

Kootenai..... 2 crews of 3 men

Kaniksu..... 2 crews of 3 men

St. Joe..... 1 crew of 3 men

Cabinet..... 1 crew of 2 men

Reconnaissance surveys

Region-wide..... 2 crews of 2 men

Mountain Pine Beetle

Region-wide..... 1 crew of 6 men

Douglas-fir beetle

Region-wide..... 1 crew of 3 men

As reliable men are released from other forest activities and are available, they are employed and added to these crews.